

PRACTICE DEVICE

REFERENCE TO RELATED APPLICATIONS

[0001] None.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] None.

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0003] The present invention relates generally to the field of practice devices. More specifically, the invention relates to practice devices which include a monitor and camera enabling the user to view his or herself while making a proper swing.

2. Description of the Related Art

[0004] It is known in the prior art to use devices enabling the user to observe his or her swing while practicing. One of these devices, disclosed in U.S. Patent No. 5,984,684 issued to Brostedt et al., enables the user to observe his or her swing (and an instructor) in special glasses which contain a display. A second patent, U.S. Patent No. 5,249,967 issued to O'Leary et al., uses a mirror which is positioned so that the user may observe his or her swing.

[0005] Perhaps the closest prior art to the present invention is that shown in U.S. Patent No. 5,904,484 issued to Burns. Burns discloses the use of both a camera and a monitor. The camera is aimed from a point of reference ideal for observing the user's swing. The image viewed from this camera is projected in real time onto the monitor, the screen of which is positioned in an upright, substantially vertical position. Because the screen is viewed from its

upright position, it is required to be located at a position beyond the ball from the user a considerable amount. This creates problems. The most important of these, is that the user, in observing his or her swing, must look away from the ball to see the monitor. With the proper golf swing, however, the user is required to stay focused on the ball. Because of this, when using the prior art device, the user is forced to swing in an unnatural manner which prevents him or her from making the normal swinging motion. Practicing in this awkward manner substantially impairs what would otherwise be a tremendous training method – watching your own swing in real time.

[0006] Because of this significant disadvantage, there is a need in the art for a practice device which enables the user to view the swing while still looking at the ball.

SUMMARY OF THE INVENTION

[0007] The present invention overcomes the disadvantages of the prior art devices by providing a camera/monitor system in which the monitor is located proximate or beneath the position from which the ball is struck to enable the user to view the swing in real time while accomplishing a normal golf shot in which the users eyes remain trained on the ball.

[0008] It is an object of the invention that the monitor be protected from damage.

[0009] It is an additional object of the invention that the monitor be in a plane substantially parallel to the plane of the playing surface.

[0010] It is a further advantage of the present invention that the monitor and camera used are easily portable such that the user may take them from place to place with ease.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0011] The present invention is described in detail below with reference to the attached drawing figures, wherein:

[0012] FIG. 1 is a perspective view of the portable practice device of the present invention in open condition.

[0013] FIG. 2 shows the practice device of the present invention in closed position, ready for transport.

DETAILED DESCRIPTION OF THE INVENTION

[0014] The device of the present invention is shown in FIGs. 1 and 2. FIG. 1 shows the device 10 of the present invention in open position. As can be seen from the figure, the device somewhat resembles an open suitcase. It has two halves. The first/standing half 14 is the half on which the user will stand when practicing his or her swing. The second/striking half 12 is the half on which a ball will be placed before being hit. On top of both halves, is a simulated playing surface 28. The surface shown used here, for golf, is artificial turf, known commonly as "astroturf." As can be seen from FIG.1, the artificial turf covers substantially all the top surface of device 10 when it is in open condition. Other surfaces for other sports, however, could be used as well and still fall within the scope of the invention. Virtually any sporting surface could be used by one skilled by the art depending on the type of sport being practiced.

[0015] Examination of striking half 12 reveals a monitor having a screen 34 located thereon. Numerous types of monitors having flat screens are readily commercially available, and will be known to one skilled in the art. It is desirable that it be a type that is fairly durable, so that it will be able to endure the banging received from the golf head.

[0016] In order to minimize the potential for damage to display 34, screen 34 is protected by a highly durable and transparent plexiglass protective cover 36. Cover 36 is of sufficient thickness to prevent screen 34 to be damaged when a user hits it with a club head. Immediately inward from screen 34 is a tee 43 at an inside-edge-tee location 44, the tee, made of a durable thermoplastic or rubber material, being adapted to receive a golf ball. Also shown is a second tee 45 at center-screen location 46, where the tee is actually located in the middle of screen 34. Tee 45 is constructed of a durable thermoplastic or rubber material just like tee 43. A third tee 47 at an outside-edge location 48 is also constructed of a durable thermoplastic or rubber material. Also present on striking half is a cut-out section 22, which is shown containing a tripod 24 with a camera 26. When camera 26 and tripod 24 are not in use, they may be stored within section 22.

[0017] Examination of standing half 14 reveals a right-foot placement pad 30 and a left-foot placement pad 32. Pads 30 and 32 are smooth relative to the turf, and are shown being located in cut-out portions, but could also be easily sewn, or otherwise fixed atop the turf. They should be constructed of a material which will prevent the users feet from slipping. It is important to note that device 10 will function equally well without pads 30 and 32. The pads only serve to help the user immediately position his or her feet in the appropriate places.

[0018] Striking half 12 is hingeably joined to standing half 14 by a pair of hinges 20. These are standard metal hinges, the make-up and function of which will be understood and readily known to one skilled in the art as ones similar to those used on a suitcase. These hinges enable halves 12 and 14 to be brought together and device 10 closed up as shown in FIG. 2. When the device is closed, as shown in FIG. 2, a pair of hoop-latches 18 are provided on

standing half 14 to clasp a pair of hooking-tabs 38 on striking half 12 and lock device 10 in closed position.

[0019] Once in this position the device may be carried from place to place using, like many suitcases, a handle 16 which is provided on half 14, but it could optionally be located on half 12.

[0020] Because device 10 is portable, it may be transported to any location, i.e., driving ranges, golf courses, for practice.

[0021] Once it is brought to a desired location, device 10 may be opened up by unhooking latches 18 from tabs 38 and halves 12 and 14 dropped to the position shown in FIG. 1. A front 40 surface and a rear surface 41 of the device when closed are constructed of a material having superior traction properties. These surfaces may be made of rubber. As shown in FIG. 2 here, these surfaces are rubber pads with an irregular surface located thereon. This is similar to the configurations on the bottom of industrial/office floor mats. The important principle is that once the device is opened up into open position as shown in FIG. 1, it is not allowed to slip on the grass, or whatever surface it is placed upon.

[0022] Also on one (or both) sides 40 or 41 of device 10, indicia might be presented (not shown). Indicia 47 might be a logo or contain other information.

[0023] When device 10 is opened up, cutout 22 is then exposed, and camera 26 on tripod 24 may be removed for use. In the preferred embodiment, camera 26 is a real-time capable mini-cam, which operates in a manner known to those skilled in the art. Such cameras are also readily commercially available. Camera 26 includes jacks which electrically connect via an electrical conduit wire to jacks on striking half 12 (not shown), and from these jacks, the signal is transferred to the embedded monitor and screen 34 in a manner well known to those skilled in

the art. The camera and monitor act together to display real-time images on screen 34, also in a manner known to those skilled in the art. This enables the user to view his or her swing in real-time for practice purposes. The camera may be placed directly in front of the user to obtain viewing of the swing head on. Because it is provided on a transportable tripod, however, the camera may be moved to almost any position, and aimed at the user. The unlimited number of vantage points available to the user for viewing are helpful to the practice process.

[0024] While looking at the monitor, the user may simultaneously focus on the ball. Regardless of whether the ball is placed on tee 43 at inside-edge-tee location 44; on tee 45 at center-screen location 46; or on tee 47 at outside-edge location 48; the user is able to focus on the ball without loosing view of the images provided on screen 34. This is because (i) the monitor is positioned to be substantially parallel to, but slightly beneath, the playing surface (astroturf), and (ii) the tee is located so close to, or on, the monitor such that the user is able to peripherally view the real-time image while still focusing on the ball during the course of making a proper golf swing. Thus, he or she is able to observe the swing in real time without having to move his or her head away to see the monitor.

[0025] Thus, there has been shown and described a sport practice device. Many changes, modifications, variations, and other uses and applications of the subject invention will, however, become apparent to those skilled in the art after considering this specification together with the accompanying figures and claims.

[0026] For example, the device could be easily transformed into a device for practicing the appropriate hockey shot swing. In such a case, a hard flat surface would be used as the simulated playing surface instead of astroturf. Other variations adapting the device for other

sports in which a swing are made could also be made, and are also included within the scope of the invention here.

[0027] Further, the same device, together with ensuing benefits is also applicable to similar equipment in unrelated industries. All such changes, modifications, variations and other uses and applications which do not depart from the spirit and scope of the invention are deemed to be covered by the invention which is limited only by the claims which follow.